

SUPPLEMENT.

The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1900.—Vol. XLII.

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Original Correspondence.

THE PIT EXPLOSION IN WALES.

With the revolution of time there has again come about the necessity of our recording "another pit explosion in Wales." It must be confessed that we had begun to look for the duty. There have been calamities in collieries in the North, and in Lancashire, and a South Staffordshire district; and the turn for the mention of Wales in the same connection had arrived. True to the average, with the time has unhappily come the event. And how comensatory the event of the often-uttered truth that the collier's risks are something horrible; but that those risks are only too frequently the result of his own unwatchfulness, if not his own disregard of the means of safety which science and those over him in management of the colliery have placed at his own disposal. In a district last mentioned before South Wales the accident that is yet to be finally investigated, and by which eight colliers were killed, resulted from suffocation brought about by fire, though fire in a different form to that which killed eleven colliers in the dead of night, on Wednesday, last week, in the Llynvi Valley. In each case, however, every workman who was down at the time has been sacrificed, and no one has, therefore, been left to tell the tale of the circumstances that led immediately to either catastrophe. Yet in both cases the evidences seem to lead up to the conclusion that may be deduced without much risk of uncertainty—a conclusion only too confirmatory of our other statement, that the collier's risk is too often the result of his own disregard of observances absolutely indispensable to his safety, and within his own disposal.

An excellent published account of the accident furnishes us at once with the locality of the last disaster in Wales and of the surrounding facts, so far as they are at present known. It is set forth that at a distance of about half a mile from Maesteg—in fact, just on the borders—are situated the Oakwood Collieries, Nos. 1 and 2, belonging to the Messrs. Davis, sons of Mr. William Davis, the well-known colliery proprietor of Blaengwawr, who trade under the style of the Maesteg-Morthyr Steam Coal Colliery Company. These pits are, therefore, some nine miles from Bridgend, and are off the same fiery stream as most of the collieries in the Llynvi Valley, which here runs between the rising ground of the South Wales seaboard beyond Bridgend and the termination of some high mountain ranges. No. 2 is an exhausted one, and is now only used for the purpose of pumping water; and No. 1 pit, which has been sunk about two years, is not consequently very extensive, raising some 200 tons per day. The pit, which is, of course, worked with locked lamps, is one of an ordinary description, and consists of three seams—No. 1 seam, 4 ft.; No. 2, or Truro seam, 4 ft.; and No. 3 seam, 6 ft. Usually during the daytime about 150 men are engaged in these seams, and on the night of Wednesday eleven men and five or six horses were down in the regular course of business to prepare for the next day's work. At about five minutes before midnight, as near as can be calculated, the whole of the town was awakened from its slumber by a loud report in the direction of the Oakwood Collieries, the noise being mingled with short, sharp, rattling sounds, and rolling like a thunder clap far away over the neighbouring hills, and for miles down the valley. It is even said that the report was rendered quite audible at Bridgend. There was little, if any, flame proceeding out of the pit when the explosion occurred, and this, together with the after-damp, soon cleared away sufficiently to admit of bands of explorers descending the shaft. Though the progress of the exploring parties was at times rendered difficult by falls, they ascertained that the whole of the workings in the three seams had been subject to the influence of the explosion, and that every living creature in the pit at the time—man, boy, and horse—had perished in the choke-damp and the flames. Singular to say, however, considering the fact that the whirlwind of fire swept from end to end of the pit, the amount of damage to the workings was not so great as had at first been expected. But what was lacking in the destructive force of the blast was fully made up in its apparent intensity of consuming power, for the appearance which the dead and dreadfully burned bodies of the poor men presented afforded quite sufficient grounds for such an inference. The damage done to property is not very extensive. The cage was shattered into splinters, and lies near the pit a perfect wreck, the heavy massive iron plates at the mouth have been upheaved and misplaced, the iron girders which are connected with the machinery for working the lifts were torn asunder, debris was scattered here and there, and for some few minutes subsequent to the explosion the vicinity of the engine-house and the ground under the winding-gear presented a confused and ruined aspect.

As to the cause of this terrible catastrophe there have (the same account adds) been many rumours—a neglected door, and the old story of an opened lamp, being referred to as amongst the most probable; and, indeed, it would seem that this latter supposition will turn out to be well founded, considering that on the body of John Lloyd being raised from the floor his lamp, unlocked and open, was lying beside him. If the enquiry yet to be prosecuted should not overturn the expectation to which this discovery leads, we have here another illustration, as striking as it is painful, of the recklessness in which colliers will indulge in the face of the most terrible dangers. The report with which the explosion was accompanied, and the completeness of the destruction that ensued, are only too conclusive of the very great volume of gas that fired. That fact points to a danger by which many of the South Wales colliers are especially beset. If it were not that still more terrible catastrophes in that district have been preceded by sudden and great blowers of gas, we should be disposed to put down the manifest great volume of gas to an accumulation of some meaning. We have, however, in our recollection the fact that the awful first Ferndale explosion, that happened on Nov. 8, 1867, and killed 178 people, and likewise the second in the same colliery, that occurred on June 10, 1869, and by which 53 lives were taken, were immediately preceded by blowers of gas. Whatever may have been the case as to the second explosion, the first was also attended by the opening of lamps, a lamp with its top off having been found near to a blower, whilst numerous lamps were unlocked. We wish that more attention were given at colliers' conferences to the immense necessity there is for colliers to give more heed to their own safety than they are now accustomed to display. With respect to the management of this pit in the Llynvi Valley, it is truthfully stated that the firm have made a vast outlay of capital in developing the pro-

perty; and all the modern appliances for the carrying on of an extensive business, and securing, as far as possible, the safety of the workmen, have been introduced.

COMPRESSED AIR AS A MOTIVE POWER.

SIR,—Mr. Hurd, to whom all honour is due as a highly original and ingenious as well as prolific inventor (of which the columns of the *Mining Journal* surely give sufficient evidence), has discovered the grand secret which has baffled the genius of every previous inventor, and he has well earned the premium offered for the discovery of Perpetual Motion. He says, in the *Journal* of Jan. 6, that "Compressed air by our patent is more economical than direct steam for mining and all other purposes." In reply to your correspondent, "J. M. R.," in the *Journal* of the previous week, he says "Your correspondent's assumption is perfectly correct—i.e., that a 10-horse engine, compressing air by the differential lever, will give 30-horse power underground." I should not have thought so, but take Mr. Hurd's word for it, and venture to suggest the use of the 30-horse power to compress more air, thus giving in the same ratio 90-horse power, and so on *ad infinitum*. But then the question occurs to me, and I confess I am at a loss for an answer—Why use steam at all? "Advance," in last week's *Journal*, it appears to me entirely misapprehends the question. The use of compressed air is not by any means new, the properties discovered by Mr. Hurd (either in the air, or the "differential lever," though I do not exactly understand which) are I believe quite new. A READER.

Jan. 16.

PREVENTING EXPLOSIONS IN COLLIERIES.

SIR,—The lamentable loss of life resulting through explosions in coal pits, ought to induce all persons to exert their ability to devise some means by which fresh air and good light might be introduced to the most remote workings of the mine. I, the undersigned, have invented such an apparatus, of which the following is a description. From the surface to the bottom of the mine in one of the corners of the shaft are fastened perpendicularly two pipes of iron, each pipe having a diameter of 3 in. inside. At the bottom end of the pipes are as many sockets for taps as there are places being worked in the mine. To these sockets are fastened iron pipes, which are carried nearly to the end of the working, and which can afterwards be lengthened to any distance required by means of gutta-percha pipes. At the end of the iron pipes at the bottom of the mine, and after each turning or elbow (where the pipe is carried in another direction) there must be valves made to shut the pipes hermetically. At the top of the mine, and connected with the iron pipes, are placed on the one an air-pump and on the other a force-pump, each of 25 to 30 inches in diameter inside, which pumps are worked by a steam-engine of 4-horse power. The air-pump pumps out the foul gas, whilst the force-pump supplies the mine with fresh air. With this apparatus is combined an oil lantern, hermetically constructed, 10 in. cube, supplied with air direct from the inlet pipes, and provided with a pipe through which the products of combustion pass to the outlet pipe.

The rules, regulation, and management of the pipes, the valves, and the lantern must be wholly and solely committed to the care of two or three men, who must thoroughly understand their use. I believe that this apparatus will fully answer its purpose, and the miners will always have fresh air, so needful for their health, and will also have as much light as they require, without any danger of an explosion; moreover, the proprietors of the mines will no longer run the risk of losses through the stoppage to business consequent on an explosion. By the apparatus the greater part of the carbonic acid will likewise be pumped out, but it is, nevertheless, to be recommended that in some part of the mine, on the ground, pans containing slack lime mixed with water should be placed, as this is a very good disinfectant, and means for destroying the effects of carbonic acid gas. Jan. 16.

J. VAN DER ELST.

DESTRUCTION OF FIRE-DAMP, AND EXTINGUISHING FIRES.

SIR,—In my two previous letters I endeavoured to draw the attention of persons engaged in gas and water engineering to the importance of investigating the subject of dealing scientifically with fire. It is impossible to calculate the benefits that may be conferred on the various branches of our industrial population when this subject is thoroughly understood. You are aware that the past history of the world furnishes no record of man being enabled to control this element. I contend, therefore, that this discovery is worthy of the serious attention of the engineering profession, and I think it is to be regretted that our constructive, physical engineers pay so little attention to the elementary or primary laws of chemistry. I firmly believe that the only opening to the real road to advancement in civilization is found by the development of man's capabilities of controlling fire, for "he that can command fire may defy the world in arms;" and when we remember "how great a matter a little fire kindleth," we ought to feel how important it is that man should be master of this situation. My deepest concern in bringing this subject before the public is the welfare of the mining population, whose labours are constantly contributing to the general welfare of the nation, and I am most anxious that the thinking portion of the coal pit proprietors should form a committee of active, intelligent men, who will give this subject a fair and impartial investigation, as it is not my intention to let this invention drop through for the want of agitation. You are aware that I have lit with gas more than 50 towns, and supplied many with water, baths, &c. I, therefore, feel confident that my experience has rendered me fully capable of working out this invention, for which purpose I am anxious to organise a National Association, which shall be capable of investigating, and practically applying, this discovery to its various uses. I am quite aware that many of the engineers who hold the various situations as inspectors, secretaries, and sub-superintendents will be very anxious to keep things as they are, as my 40 years' experience has convinced me how difficult it is to keep men on the move forward, and I have no doubt that this innate tendency to stagnation will be the chief obstacles I shall have to surmount in getting this invention into full operation. It took more than half a century to convince men of the practicability of lighting towns with gas, but I trust 50 weeks will not elapse before this invention is in practical use in many parts of Great Britain. I shall do my best to work this invention with the

coal pit proprietors and such persons as are interested in mining property, but if I find any serious obstacle in that direction I shall be compelled to appeal to the miners themselves, as this invention shall not prove a dead letter. I have much to communicate to the *Journal* on this subject, but it is better to do one thing at a time; and as we intend launching a powerful company immediately for working this invention, it will not be advisable for me to say more till after our final experiment, which will be shortly carried out in the neighbourhood of London. I may state that more than 18 months have already been devoted to experiments with this machine, which have perfectly satisfied every person who has witnessed them and taken an interest in the subject. THOMAS ATKINS, 26, Budge-row, Cannon-street.

GUN-COTTON.

SIR,—I observe by the recent report of the gun-cotton committee that they recommend the Government to manufacture gun-cotton only in the wet process, and that they propose to invent a process for drying it. Every manufacturer of gun-cotton must know that it is safe whilst wet, and that the great danger in its manufacture lies in drying it, and keeping it dry after it has been dried. So the labours of the committee are really only about to commence.

I have invented a process (which the committee appear never to have heard of) by which every separate particle of gun-cotton is coated with a composition which prevents the accidental presence of free acid from destroying or exploding it, and by which it is rendered stronger than any gun-cotton yet invented.

I am also able to control the power of my gun-cotton, so as to render it suitable for guns; and I am able to drive a bullet out of a Henri rifle with about twice the force of gunpowder, weight for weight. Gun-cotton mixed with inert cotton, as at present used, does not give nearly such results.

I attain the necessary uniformity (which is a most important element) by mixing the particles of gun-cotton, after being coated, much in the same way as gunpowder is mixed, and thus I make my gun-cotton safe from accidental explosion, much in the same manner as dynamite, lithofracteur, and gunpowder are manipulated. Newcastle-on-Tyne, Jan. 15.

ROBERT PUNSHON.

TRADE AND COMMERCE IN 1871.

SIR,—Be pleased to notice the following startling facts of the year 1871:—

- 1.—The imports of gold and silver exceeded the exports by nearly 4½ millions sterling.
- 2.—The gross imports were nearly 112 millions in excess of the exports.
- 3.—The imports averaged nearly a million sterling a day!
- 4.—The imports of food (including tobacco, &c.) valued 126 millions!
- 5.—The total of cheques and bills paid through the London bankers' clearing house was over 4826 millions!

T. A. READWIN.

Manchester, Jan. 17.

CAN ENGLISH TIN BE INCREASED?

SIR,—As the above question may fairly occupy the attention of both tin producers and consumers, I will state a fact or two that will throw some light on its consideration. I am of opinion that Cornish tin will not be increased this year in consequence of the great advance in the copper standard. Every effort was made in 1871, as tin was high, to raise every pound they could, and hundreds of tinminers were employed on inferior tin ground, which will now be suspended, and the same men put to raise copper. There are also iron mines springing up in different parts of the country, which, with emigration to Australia and America, all tend to reduce the number of tinners.

When we look at the increased consumption of tin last year, stated to be 2600 tons, also a decrease of stock in Holland and London, of 2758 tons, and the small quantity arrived for next Banca sale—only 38 300 slabs against 80,079 last year—it appears to me strongly probable that the production of tin for 1872 will be less, and the price rule higher.—Penzance, Jan. 17. AN OLD SUBSCRIBER.

THE MINERS' WAGES MOVEMENT.

SIR,—I have read with much interest from time to time the articles under this head in your valuable *Journal*, and the scores of other letters which have appeared crying down the five-weeks system. Now, there is scarcely a writer who seems to know what the real grievance of the miners is. Your correspondent, in the Supplement to last week's *Journal*, "A Manager of Mines," with many others, is precisely of the same opinion as myself—that the grievance is not in waiting an extra week for the pay, and whether they get twelve or thirteen pence in the year is quite immaterial; but it is the impression that they have to work the fifth week of the month for nothing. And I must confess that there has been good reason for the miner to think so—for, as a rule, tutworkmen and tributers working on low tribute do not get the same price for a five-weeks month as they do for a four, and here comes the grievance. I do not see, after all, that the agents are so much to blame, seeing that the pay-sheet would be raised 20 per cent. above what would be termed the average allowance of wages—they would naturally be called into question about it, as had been the case many times. Give the miner to understand that he is paid in full for every week he works, and there will be no complaint of the five-weeks month.

The question comes, of course, what steps had better be taken so that there might be perfect satisfaction between all parties? Well, if the same plan were adopted as they have in the slate quarries of North Wales, there is not the slightest doubt in my mind that the same satisfactory results would follow—contentment. I have never heard a single complaint from quarrymen or miners against five-weeks months. All the accounts are balanced up to the end of the calendar month. Men not on bargains are paid by the day, and hence they get their 26 or 27 days, as the case may be, for every month, and so if they have to work five weeks for the 26 or 27 days they get the same number of days at the end of four weeks. All bargains are set the first day of the calendar month, and are measured at the end of the same. This system secures uniformity in the monthly cost-sheets, and gives entire satisfaction to the labourer. I have had more than 20 years' experience in Cornish mines, and

during that time have been intimately acquainted with the mass of working miners. I speak, therefore, from my knowledge that men do not complain so much of waiting for their money as they do of the small sum for five weeks' work. I have known instances where subsist was paid in the middle of the month, and so the men got paid twice a month. This plan did not suit, and all the miners denounced it.—Jan. 18.

CYFIANDER.

THE MINERS' WAGES MOVEMENT.

SIR,—It is pleasing to see the mutual good feeling shown by the miners, mine proprietors, and managers of mines in dealing with this important question. With reference to the grievance—the five-weeks month—I believe that, as a rule, the miner does receive the consideration to which he is entitled for the extra week. This will, doubtless, receive due consideration at the meeting convened for the 22d inst. at Truro. There is another serious inconvenience the miner is subject to in having to wait eight or nine weeks from the commencement of his labours ere he receives his first pay, which is detrimental to him in many ways, and which I fear will not be met by the adoption of the proposed system of payment every four weeks. The practice pursued for some time past in mines with which I am connected is to pay on the last Friday of the month the balance due from the previous month, and a fortnight of the current month, which leaves only a fortnight in hand. Thus, a miner commencing his labours at the beginning of the month is paid for a fortnight's labour on the last Saturday, which I think is far preferable to bi-weekly payments.

In carrying out the above system there is no difficulty in respect of the monthly and day labours; but, as regards the underground mining, the labour performed by them in the early part of the month will have to be estimated, which I believe can be safely adopted in the larger as well as in the smaller mines.

RICHARD RICH.

Bodmin.

THE MINERS' WAGES QUESTION.

SIR,—The writer from the county of Cork, on this matter (in the Supplement to last week's Journal), tries to show that asking for 13 pay-days in the year will be of no advantage to the workers. Then he must be ignorant of the fact that all monthly hands at surface, and tutworkers below, where a standard of gettings is fixed, as is the rule in most of our Cornish mines to this day, work 52 weeks in the year, but are only paid for 48; and, this being an indisputable fact, I think there would be a manifest advantage to all such to have a full month's earnings extra every year; and that is at the bottom of the waging war against the five-weeks month, which has been abolished ere long everywhere, after the example set at Carn Brea, Tincroft, and the Wendron Mines. It is the height of absurdity to talk, as some do, about the disarrangement of accounts, and the difficulty of keeping them; but the flat is gone forth, and it must be done. A system of fortnightly payments on account, and a settlement at the end of the contract or bargain, must come, which will place our mine workers on an equal footing with other of the working classes in the matter of markets, and in their dealings with their shopkeepers.

The suggestion by some to leave arrangements as they are as to the number of pay-days, but pay them at per week, and all tutworkers at per farthing a fair price in sight for as much as they can do in a given period, would go a good way to tide over the difficulty; but the majority of the hands would prefer more frequent payments. To my mind their demands are most reasonable, and, in the words of a writer in one of our Cornish weeklies, able and industrious men ask only for the chance of working and fairly earning 12. per week, and for this to risk their lives and limbs daily, and the certainty of shortened life compared with surface workers. Now, if our country folks at the approaching meeting are not prepared to concede the terms so modestly and justly put forward on behalf of the Cornish miner, then they must inevitably look out for a wholesale migration to those new concerns now springing up which, to obtain good hands, are disposed to deal liberally in the matter of wages, &c.

WATCHER.

Jan. 17.

THE MINERS' WAGES MOVEMENT.

SIR,—At the meeting, to be held at Truro, on Monday next, on behalf of the "poor miner," it is to be hoped that some rule will be adopted whereby the miners shall be compelled to perform several hours more labour throughout the week than they now do. There are hundreds of miners down in this part who do not work on an average more than 25 hours per week, and for which they fully expect (and in scores of instances do get) not less than 42. or 52. a month. Moreover, the captains' authority over the men in their employ has almost ceased, inasmuch as when they challenge the miners with working short time, and other non-fulfilment of their duties, they at once display a sort of independence, accompanied by impudent replies. On the principle that a one-sided sympathy is not just, I would suggest that the shareholders be protected as well as the "poor miners."

TIN.

Penrith, Jan. 17.

"WHAT TO SELECT—WHAT TO AVOID"—No. VIII.

SIR,—The semi-collapse now so apparent in foreign mines is undoubtedly ascribable to one primary cause—inadequate working capital. The one sovereign remedy for this growing evil is clearly in the hands of the investing public, who, dutifully to themselves, should absolutely refuse to accept an interest in any mine the vendors of which are not prepared to take paid-up shares for that which they offer for sale, leaving the subscribed capital to be appropriated to its legitimate use—development. If this wholesome principle were rigorously adhered to, less would be heard of the ruinous necessity of raising fresh capital by shares issued at 50 per cent. discount, thus permanently reducing the negotiable value of the ordinary shares, or the equally adverse method of debentures or preference shares.

Vendors having that great confidence in the value of that which they desire to vend, such an equitable arrangement could not be otherwise than to their immediate interest, by enhancing the commercial, no less than the marketable, value of their stake in the enterprise; while those who supply "the sinews of war" would have the unqualified satisfaction of knowing that their capital is to be expended in a direction in the successful issue of which both vendors and subscribers have one common interest. If a mine really be in a remunerative and profitable condition, with large reserves of ore, a cash payment may not, under such circumstances, be unreasonable nor incompatible with the true purpose of the vendor; but, even then, the cash amount paid should in no case exceed the net value of the ore actually laid open, which, upon an average, ought never to be estimated at more than about one-third its value, *in situ*.

Scarcely a week now passes without shareholders being called upon to subscribe additional capital, which in most cases, for obvious reasons, has to be raised upon onerous terms as compared with the ordinary capital. It is in this respect the Companies Act, so far as its limitation of capital is concerned, is inapplicable practically to the development of mines, and, at the same time, demonstrates most clearly the perfectness and adaptability of the Cost-book System, by which each shareholder has a controlling voice in the administration of the company's affairs, the majority deciding the amount of dividend to be declared or the call to be made. The abuses which have been allowed to contort and disfigure this eminently practical and effective principle for the financial conduct of mines has, unfortunately for mining itself, brought about a certain amount of odium and disrepute; but yet it must never be forgotten that, with very few exceptions, all our richest home mines are still conducted on the Cost-book System. The few exceptions are not Cornish mines, Cornishmen regarding the principle of limited liability as utterly unsuited to the satisfactory and successful development of mines, for the very simple reason that at the outset it is not within the view of the most astute or practical to state with any certainty the amount of capital necessary to bring a mine into a profitable yielding condition.

Few, very few, mines fail from actual poverty—it is inadequate, insufficient working, expensive management, and ornamental, but useless, directors, that, having discouraged shareholders, cause many sound *bona fide* properties to be abandoned before their resources have been reached. Even our greatest mines have passed through strange transitions ere they reached the goal of success, and some of them have not always had desirable executives.

These are things of which the untutored public should be apprised,

and by whom they should be duly weighed, for thus only can they know "What to Select—What to Avoid."

Mines conducted upon both principles may be selected so as to yield considerable profits, but the columns of a public journal would scarcely be the place to categorically enumerate them. While the many congratulations I am continually receiving upon the selections I have already made in this series of letters are pleasing to one's sense of satisfaction, they also distinctively mark the desire on the part of the investing public for information upon the many cardinal points attaching to this description of security, without which it is altogether impossible for even the experienced, to say nothing of tyros, to establish any basis whereon to form an opinion; with such auxiliaries, however, risk is reduced to a minimum, and the chances are indeed great of reaping a handsome return from the investment selected. The letters I receive from all parts of the country betray a lamentable absence of forethought, if not common prudence, in not fully enquiring into the merits of the respective mines introduced. The general policy would appear to be to institute the necessary investigation after the capital has been invested, whereas prudence would dictate that this ordeal, so essential to success, should be the first step taken.

As I have pointed out in a previous letter, there are mines and mines, and to be able to select the one and to eschew the other can only be done by those who, from a long and practical experience, have become familiarised not only with the character of the respective mines, but, which is of equal importance, also the status of the executive and management entrusted with their development.

FREDK. WM. MANSELL.

1, Pinner's-court, Old Broad-street, Jan. 17.

NEW GOLD FIELDS IN SOUTH AFRICA.

SIR,—Referring to the recent important discovery of new gold fields within the South African Republic, I beg to state that I have received samples of quartz and alluvial gold, with certified documents relating thereto; also a tracing showing the locality from whence obtained, which may be seen at this office between 11 and 2 o'clock daily, except Saturday.

Your insertion of the above for the information of your readers will oblige—
J. J. PRATT, Consul-General.
Consulate General South African Republic, Fenchurch street, Jan. 17.

MINING ON THE RHINE—No. XIV.

SIR,—Notwithstanding the fact that the *Mining Journal* is not responsible for the accuracy of statements made by its correspondents, it cannot but be important that every statement in a journal should be found correct, and I should consider that I injured the efficiency and betrayed the confidence of the Journal were I to place any inaccurate statement before the world through its medium. The partial answer made in your last, therefore, demands this addition. The Menzenberg Mining Company—the immediate object of attack—have since held their meeting, and it appears that before issuing a prospectus Prof. David Forbes, F.R.S., F.G.S., one of the most scientific as well as practical men in Europe, Capt. Thomas Rickard, Herr Obersteiger Mühlenblum, Herr Schreimer, and Freiherr von Hüne had all reported on the property, and that the directors had before them the statement of agents and miners who inspected and worked in these mines when last opened; that three of the largest proprietors, with a practical and experienced miner, spent some days on the property; that subsequently Mr. Dickens, whose practical knowledge as a man of business and admitted ability as a magistrate are well-known at Manchester, being the chairman of the board of directors, spent a considerable time in enquiring into the condition of the property, and expressed himself satisfied as to its worth, and well pleased with the management; that Mr. Thomas Rosewarne, of Old Broad-street, London, a miner of vast experience, was sent over, and gave a most favourable report on this extensive and valuable property, and now that a fine course of copper ore has been discovered in a shaft on a lode the size and underlie of which, after sinking perpendicular on it, has not been ascertained; that five lodes have been discovered in old workings, all carrying ore at 4 fms. deep; that the lode for which the mine was commenced has not been worked on, and is intended to be cut by means of a shaft and levels from the old workings; that a large lode has been discovered half-a-mile west of this point; that a main lode has been cut in the Hotel Garden, and two lodes seen in cross-outs will shortly be cut by means of a shaft on the southern boundary under their junction, one of these 2 ft. and the other 9 ft. wide, in this rich district. Now, and not till now, does your "Rhinelander" find it necessary to remark that the "two gentlemen of Cologne" ought to have been sent to advise the company instead of, and in preference to, those above named. An injudicious friend is more dangerous than an avowed enemy.

To conclude this subject I add the testimony of Herr Zinkrafft, a host in himself, and whose report, but for his lamented illness, would have been before the shareholders in the Menzenberg Mine at their general meeting, and who has dialled the lodes and inspected the mine several times, and stated that he had not seen so fine a lode as that in Dickens' shaft, or so rich a pile of ore at the depth in the over thirty years of his vast experience in this district.

OUR CORRESPONDENT.

THE MENZENBERG MINE.

SIR,—Having reference to the notice of "Rhinelander," which recently appeared in the Journal, it strikes me that the brief but conclusive report of Herr Peter Suchart should have been printed with the proceedings, and you will oblige greatly by inserting it:—

Menzenberg, Jan. 4.—On inspecting this mine to-day I found such rich ore as I had never before found in any other mine at the same depth; and, what pleases me very much, and gives such confidence, is that the ore increases in richness with depth. The ore raised is taxed by me in three classes; one-third from 14 to 15 per cent., one-third from 8 to 8 per cent., and one-third about 5 per cent. I will also remark that the smalls are very valuable, as these contain 5 per cent. or more.—SUCHART, Ore-dresser and Preparer of Mineral.

A SHAREHOLDER.

MENZENBERG MINING COMPANY.

SIR,—Will you allow me to point out a slight inaccuracy in your otherwise correct report of this company's meeting in last week's Journal? You state that the Chairman said "the directors did not contemplate issuing more shares on the capital than was adequate for the contemplated operations." What he did say was, "that the directors did not contemplate issuing more shares, as the capital was adequate for their contemplated operations." By inserting this in your next issue you will oblige.

W. W. BIRD, Secretary.

SILVER IN CARDIGANSHIRE—THE WEST FLORIDA.

SIR,—Probably you are not aware that silver was found in quantity far exceeding the usual yield of Cardiganshire mines at South Lisburne. Some specimens contained by analysis over 30 ozs. to the ton of metal. This mine is situated about 1½ mile north-west of West Florida, on parallel lodes. About half-way between South Lisburne and West Florida lies Cwm Mawr Mine, which was reported to be rich in silver. It has been idle for some time, and is now, I understand, about to be re-opened by Messrs. Taylor.

The parallelism of productiveness in lodes was a theory of Capt. Matthew Francis, and recent investigations would warrant its correctness, at any rate in Cardiganshire. In the interest of shareholders in West Florida, enquiry should be made to find what are the proportions of silver in lodes on the same course already opened north-east and south-west, and also on parallel lodes on the contrary side to Cwm Mawr and South Lisburne. I do not know how it has proved in Esgair Mwyn, north-east on the same lode as South Lisburne; but in Lisburne proper silver does not, I believe, exceed 8 ozs. to 10 ozs. Should it be found in the lodes on the south-east in the direction of a line drawn to intersect them all at right angles, it would seem to afford another confirmation of parallel productiveness; but should the silver decrease in proportion as the lodes recede from West Florida it would go far to prove this lode the centre of silver deposit.

You will, I am sure, excuse my troubling you with this, as the facts are geologically interesting, and may draw attention to closer investigation by persons better acquainted with the locality, and more interested in the subject. Before silver was known to exist in such appreciable quantity in Cardiganshire the smelters reaped the benefit of their advanced knowledge for many years. It should not be overlooked that, in many instances, the lodestuff which is not in

appearance mineral contains as large, and sometimes a larger, quantity of silver than the ore itself.

A LOOKER-ON.

MINING IN GWENNAP.

SIR,—I am located for the night in a village called Lanner, Lannarth, in the parish of Gwennap, the far-famed mining district. Sitting by a good fire, and almost alone, the thought of writing a words to the Journal occurred to me, and I indulge it by referring to the past and the present state of mining in this parish, my visit to which dates Oct. 19, 1819, when I was very young, but enough to attend the first account meeting at the Consolidated Mines, then recently resumed under the management of the late Mr. J. Taylor, of respected memory. The mines had been previously worked by Messrs. Williams and Co. As might be expected, the bottom was found poor, which greatly affected the mind of one of the lords of the manor, Mr. H. P. Andrews, who died soon afterwards, leaving his son, of same name, to realise the subsequent profits in dividends and dues. He, too, is gone to his "long home." During the twenty-out of the twenty-one years lease the company divided about 600,000 profit. Messrs. Williams and Co. bought out the little time still remained to Messrs. Taylor and Co. and the materials, 100,000, but they never had a dividend! Messrs. Taylor had exhausted the reserves. The mines are now a heap of desolation. The United Mines, at the south of Consols, were at work at the time, but almost always at a loss; and when amalgamated with Clifford they absorbed all its profits, and ultimately went down, a heavy loss. Since then the affairs of the company have been wound up voluntarily, Mr. Charles Parry being the liquidator. The machinery and materials were purchased by Mr. George Lanyon, who has continued to do a little above the adit level, in tin. Consols Downs present a melancholy spectacle, like a deserted village.

The Consolidated Mines included Wheal Virgin, West Wheal Virgin, Wheal Girl, Cusvey, and Wheal Fortune; the United Mines included Ale and Cakes, Poldory, Wheal Squire, Wheal Clifford, Wheal Andrew, Ale and Cakes and Poldory constituted the "United Mines." Wheal Andrew was worked about 20 years ago as a rate mine—poor. It was previously called Union Mines, and before then Wheal Friendship. Wheal Squire was worked about 50 years ago at a profit. It is to be regretted that when this mine was drained by the United Mines engines no further or greater advantage was made for minerals in this mine. Now the ground is looked for a long future. Ting Tang was worked by Messrs. Williams and Co. at a profit till about the year 1835. After that the mine was briefly worked (1846) under the management of Capt. Wm. Marshall, the then late manager of the Tresavean Mine. It has been idle since, or nearly so; but I hear that a new lease has been taken of the mine, and that it is to be worked again.

Tresavean was a rich mine from about the year 1830 to the year 1840, or later. Total profits about 452,000. Treviskey at the time and Trethellan and Brewer at the west, also gave large profits. Tresavean a little is being done, but all the others are idle. The Mine is resumed, a small engine being nearly ready to start. Consols Mine is idle.

Penrthral, which gave 60,000 profit in one year, and more besides, is about to work, and some other mines contiguous, under management of Capt. Joseph Michell, with good prospects of success. Pennance Mine, commenced by Messrs. Williams and Co. about 30 years ago, present good prospects of success. The adit is upwards of 70 fathoms deep (the great adit).

West Damsel is idle; so are Wheal Damsel, East Damsel, Carleack Mine, Wheal Maid, Wheal Unity Wood, Wheal Clinton, Wheal Garland, Wheal Jewell, Treskerby, Wheal Chance, and some others. Some of these were very profitable.

This village of Lanner about 40 years ago contained about eight or ten houses, now the number of dwellings is about 200, which shows the effect of mining in any locality. Camborne 40 years ago contained 100 houses, now about 2000! Tucking Mill and Pool have increased in similar proportions.

Now that mining is the subject of this note, I may express pleasure that I feel on account of the interest that has lately been taken in the working miner. I am glad to find that Capt. Teague, Capt. Rd. Pryor, and other managers, have shown their sympathy in conceding what is fair to the claims set up. The men should receive better pay than they have been receiving. I trust the forthcoming meeting will be followed by good results.

Truro, Jan. 15.

TRUMPET CONSOLS MINE.

SIR,—In your Table of Dividends (published in last week's Journal) paid in 1871, showing a decrease from 1870 of 1000, whereas it really paid being an increase of 1000. I send you particulars of dividends paid during 1871, and should be obliged if you would be kind enough to correct them in your impression. You are quite correct in respect of the dividends of 1870.

R. QUESTRA.

Heiston, Jan. 17.

TRUMPET CONSOLS—DIVIDENDS PAID 1871.

March 30—Dividend of 15s. per 2000th share..... £1500
June 30—Dividend of 20s. per 2000th share..... 2000
October 5—Dividend of 10s. per 4000th share..... 2000—£5500
The shares were subdivided from 2000 to 4000 on June 30 last.—R. Q.

MINE MANAGEMENT—SOUTH HERODSFOT, &c.

SIR,—The time is coming when we shall have another call from South Herodsfot upon us. Calls have been going on for more than 12 years, and seem likely to go on for ever, and with the same result, if we shareholders will be content to go on placidly paying them, asking no questions.

There is something egregiously wrong about the management of mines; exceptions, of course, there are. Every shareholder seems to think it is every other shareholder's business but his own to look after the work and keep it going. Of course, what is everybody's business proves in practice to be nobody's business. We have no responsible directors; nobody to glorify if successful, nobody to hang if unsuccessful. The consequence is, over and over again, failure, when the result shows us that that success was perfectly attainable. We easy shareholders go on year after year paying calls, and then, after all, are rewarded by such announcements as this week appear.

Gonamena, a cost-book mine, has, after countless years of calls, been sold to a new company, who, it is said, may be expected by vigorous working to obtain the success they merit. This is a nasty tale (though I dare say well served) at the vigour of the old company; very likely they thought all was right on great things. If all is true that is said it will, but under the management of another proprietary, it utterly failed. Do the present proprietary harder than the last? Have they a board of directors to look after matters which the last had not? Is the captain a man to want whipping? If his vigour underground is equal to his vigour on the hill side, my legs can answer for it he does not. No man is more capable or willing. Again, to suppose that the Bank rate is 9 per cent. copper or lead lodes cannot be discovered, but when it gets down to 2½ or 3 they can, is rather too great a strain upon faith. What, then, is the cause of the difference? There must be something in the altered management? Can we learn nothing from them?

In South Herodsfot the present company, which initiated the mine, and pottering with no responsible managers; and potter on I expect they will till new company comes in and takes the benefit. Are the shareholders content to let it be so? For goodness sake let us be wise in time. There is no question everybody allows, about the stuff being in the set, and good stuff too. But the first captain started (without any excuse, for, as the captain of Old Herodsfot he knew all about the run of its lodes) with a magnificent blunder; and his successor has for some seven or eight years gone on, I suppose in some degree sensibly, perpetuating it. He says, if I understand his reports, that "if he could long enough he must cut right at last." Well, that may or may not be. But is, unfortunately, room for two opinions about that. But besides cutting long enough, we shareholders must also remember that there is the question of cutting fast enough. At the present rate we shall test the ground in the direction only in about another ten years. Take the year ending May, 1871—The cut (the only thing attempted worth speaking of) was pushed 20 fms., or 197 ft. per month. Take the whole period of working the mine, 197 fms. of shaft cut cross-cut were cut in 12 years, averaging 16½ fms. a year, or 8 ft. a month. That business? In the August and November reports no information at all given about the progress; there is nothing to show that a single foot has been cut, only the same rhapsodical talk which has been going on all the time about beautiful kills, and spots of lead, and approaching lodes. By this time we are to our cost what all that means. Presently the mine will be shut up (the shareholders cannot forever be going on paying calls to provide employment for officers and men, however personally deserving; it is carrying on charity too far), and then we shall hear that it has been sold for a song to Old Herodsfot, and have the consolation of reading an obituary paragraph in the *Mining Journal* recording our demise, and the succession of the new regime, and informing the world that now there is a certainty of a successful result under the vigorous working which before was wanting. Old Herodsfot will immediately run their level into our ground, and carry off not only the credit but the work which should be ours. They are hiding their time, expecting the chances ready to pounce. Shall they?

Under the present system of management, or rather no management, we have nothing to hope for. No efforts have been made to find the lode where it lies in the set. The cross-cut is far away along the base of a triangle, of which

TURBO AND PERRAN MINERAL RAILWAY.—This line of Railway will commence at the Mount Iron mines, on the borders of the parishes of Cubert and Perranzabuloe. It will run through lands belonging to Sir Richard D'Arcy Ford, Balmouth, Mr. Charles (of London), Mr. Richard Davey, Mr. William Hodge, John Trull, Mr. John Digby Collins, Mr. Tom, Mr. Z. Job, and Mr. Enys, the lands of the Turbo, Maries, and of the Turbo Corporation, passing through the parishes of Perranzabuloe, Cubert, St. Allen, St. Clement, Kenwyn, and Br. Mary's. One of the alternative lines will form a junction with the Cornwall Railway, near the north end of the arch at the top of Pydar-street, on an embankment about 18 feet high. It will ascend from Trebraveur Vissley by easy gradients to the junction with the Cornwall Railway, following the course of the stream, passing through the Gwariack mill tenement, and also through the village of Zelaz, and on its way passing through lands belonging to Mr. Bruce, of Prideaux Place, Mr. Hawkins, of Penwith, and others. It will go for a distance of two miles through the lands of Mr. Hawkins. It will intersect the Cornish Coast Road, between the station of Penryn and the station of Penryn-alter about 8½ miles long. The name of Mr. H. M. Whitley, surveyor, son of Mr. N. Whitley, of Penartr, Turbo, appears on all the lithographed plan. The gradients vary from one in 58 to one in 60.

The effects of vibration are so serious in many ways that engineers and boremasters have taxed their utmost ingenuity to get rid of it, and all have agreed that the only remedy is a free-falling cutter. The first was first proposed by a lieutenant of engineers at Rome, Italy, in 1876, and was named Rost, and his implement was exhibited by its makers at the last International Exhibition at Paris. A variety of clever contrivances have been hit upon for disengaging the tool, and then for picking it up and raising it to the required height for the next stroke, so as to give it a sufficient fall to make the blow to the fullest extent effective. One of the commonest plans adopted, though perhaps not the best, is to raise the tool by a slight projection from the side of its uppermost end, and then when the requisite height is attained to throw it off by a sudden shock or jerk. This plan is simple and cheap, but it is liable to get out of order easily. The plan of Mr. Kind was remarkable for its ingenuity, and is probably the most successful. The head of the cutting tool must be made like the head of an arrow, with the barb not very pronounced, and upon this there is let down a piece of -cisor-like blade, the ends of which are curved so as to seize the top of the boring tool in their clasp. The upper end of the tool makes the bold clasp, until on reaching the proper point the contracting power is removed, the clasp is relaxed, and the cutting tool falls to the bottom.

SOUTH AFRICAN GOLD FIELD.—Messrs. Silver, of Cornhill, have sent us the following interesting extracts from a letter received by them by the South African mail, via Natal:—Pretchfostrom, Transvaal Republic, South Africa, 10th Nov. 1871. "I have the honor to inform you that a rich discovery of gold in Maraba country, Zintspanberg, was announced. Samples of both quartz and alluvial gold have been officially sent by this Government to London, and you will no doubt have seen them there upon arrival. Some Australians passed Pretchfostrom *en route* for the gold fields last week, and by this post from the diamond fields I received intelligence that a rush of 1000 diggers from the diamond fields to the gold fields was contemplated. Thus we shall soon see the effects of this discovery. One thing is certain—the Transvaal is rich in mineral wealth, and even any outsider can imagine, and the riches will make themselves known. Its vicinity to the eastern seaports will make easy access to the gold fields, so I expect a complete revolution for the better in our internal affairs and government; in fact, Transvaal will soon be ruled by foreign miners, or, indirectly, by the English Colonial Government. I expect that before long we shall have emigration from India and China to the Transvaal.—Times.

FOREIGN MINES.

ST. JOHN DEL REY.—Morro Velho, Dec. 16: Morro Velho produce for November, 11,609 oit., from 4255 tons of ore; yield, 2,666 oit. per ton. Morro Velho cost for November, 4970s.; loss, 352s. Morro Velho produce eight days of December, 2996 oit.; yield, 2,131 oit. per ton. Gaia produce for November, 263 oit. Gaia cost for November, 323s.; Gaia loss, 220s. Gaia produce eight days of December, 77 oit.; yield, 6,820 oit. per ton. Remittance received, 23,468 oit. = 22½ lbs. troy; value, 97.6l. All hands are employed on the additional pumps for the new shaft. By next mail I hope to be able to advise at least one additional pump being at work in shaft B. The cost is increased by sudden stoppage of work at new shafts.

DON PEDRO NORTH DEL REY.—Report for November: Produce and cost: Produce, 9,75 oit., at 8s. 6d. per oit., 4196s. 17s. 6d.; cost, 4784s. 14s. 7d.; profit, 4162s. 2s. 11d. Owing to the occurrence of some incidental expenses the cost is unusually high. For December the cost will, I hope, be more favourable; all possible economy is being exercised compatible with efficient prosecution of the works in hand. At three of the sections where gold raising operations are at present being prosecuted—No. 8, No. 6 above Allice's, and Canoa, a decline, temporary or only it is believed, has taken place in the auriferous properties of the lodes. First Division of September: Extract from letter dated Dec. 18: remittance, 21,749 oit.; produce weighed to date, 2616 oit. The wire-rope has reached Rio, and special efforts are being made to get it up as quickly as possible, as the small ones now in use are giving out. The general work is progressing well. The mine presents improvement, the general work undergoing treatment is a little better, and more vein stuff is being obtained from No. 8, below Allice's level. The stopes on No. 6, above Allice's, have been relinquished, owing to their near approach to surface, and poverty of lode. No. 6 line of gold descending is still small, but retains its quality. Bryant's section is producing fair work for strakes, and a change for the better is anticipated in Canoa. The middle adit is under suspension for want of timber. At surface, saving erection of new ties near Haymen stamps, and attention to running water, all hands are concentrating upon the wheel-pit and work connected therewith, and I am pleased to say good show is daily being made. The framing, however, before referred to, continues in a backward state, and to get suitable timber in, as the roads are at present, special measures have to be resorted to.

ANGLO-BRAZILIAN.—Report for November: Passage: Produce for the month amounts to 798 oit., or 92 oit. troy. The return for the past month, though differing but little with that of the last, is somewhat under the amount anticipated, considering the large amount of jacotinga treated. It is, however, easily explained, and, therefore, need not be regarded as unfavourable. A series of experiments lately projected for the better separation of the gold from this heavy sand have been made. During October 30 per cent. of refuse stone and kilaas was mixed with the results giving fully an ounce per ton. During the past month it has been treated separately, with unfavourable results, owing to the extreme heavy nature of the iron matrix (nearly equal to that of gold), causing continual chokeage both in coffers and blankets. Measures have now been taken to add (say) 50 per cent. of stone with the sand, besides some slight alteration in the mode of treatment. One important fact is that our trials have proved beyond a doubt that the entire mass of the jacotinga contains fully 1½ oit. per ton. The question as to the best means of treating this new class of ore on so large a scale can only be gained by repeated trials. This new class of ore is, I may say, much more difficult to treat than the old jacotinga. First Division of December: Extract from letter, dated Dec. 11:—Passage: I am pleased to advise a far more satisfactory produce per ton for the first division of the month, the result of equal proportions of poor stone being treated with the jacotinga, assisting, as it does, very materially the better separation of the heavy matrix that occasioned such difficulties last month. The occupation of our force being principally confined to old workings, the raisings from which are favourable, both as to produce and quantity, there is very little to report upon. The utilisation of this, I may say, is a matter of great importance, and I present the most prudent course to adopt instead of incurring additional cost for the prosecution of new discoveries, which it is hoped in the coming year our prospects will warrant. The reserves already laid open in connection with our new sections at Buraco Seco are more than sufficient for our wants for several years to come. Various openings are already commenced to connect with the new ground, which when completed will considerably relieve our hauling charges, the present object being the direct delivery of the ore to the stamps, spalling and sorting being effected underground. Dawson's south stopes continue to yield as well as when last reported. The Jacotinga, however, is still being raised from the incline, as it is still derived from the old workings, there being no signs of the bottom as yet, which is tantalising, as from what can be gathered as to the exact depth of the shaft at the time of its last abandonment we cannot be far off. As it is we are fortunately without signs of water; depth of incline to date, 23½ fms. The samplings have been very satisfactory; those derived from the addie or debris, showing loose grains of gold, and in others, taken from the sides of the shaft, moderate-sized pieces of hard jacotinga have been collected, with small lines of gold running through them.—Hooken's Level: We have at last mastered the floor plan that has so long been a puzzle, and now we are in a position to reduce the size of the level that enabled us to pass will now be altered to its original size, and we may now look for better progress.

GENERAL BRAZILIAN.—Report for November: Moore's shaft is still dry and favourable for sinking. Middle adit has advanced satisfactorily, ground dry and favourable for driving. Shallow adit still difficult to handle. Shallow adit No. 1 is also giving trouble, and difficult to handle. Explorations have been attended to. Surface works progressing satisfactorily. Force ample. Health of the establishment good. Materials and provisions plentiful. Produce for November, 286 oit. First Division of December: Extract from letter, dated Dec. 16: St. Anna: The shallow adit No. 1 is without alteration since last advised. At the old adit, resulting from the sinking of the 2d level, a 2 ft. shaft has been sunk, and water on the increase, but nothing as yet met with calling for special remark.—Itabira: The shallow adit is about same as when last reported on. At Moore's shaft water was struck on the 8th, and suspended on the 11th. At Souza's vein has been yielding fair stamps work. At cross-cut No. 2 we have not struck the vein, but hope to do so shortly.—Surface: The wash-house at St. Anna is complete, and workmen removed to complete the stamping mill at Itabira. Health of the establishment good, and provisions abundant.—Produce to 11th, inclusive, 188 oit.

TAVARIL.—Capt. W. H. Martin reports for November that the operations generally have progressed steadily, and very fair duty performed at various points throughout the mine. He mentions that the work has been continued in the work treated during the month at the stamps, as will be shown by the produce. Nearly the whole of the work, together with the vein stuff, has been derived from the 25 fm. level, west of Haymen's shaft. Some 82 tons of trial stuff, from various localities, have been treated, but so far have proved poor. The produce amounts to 724 oitavas, and has been obtained from stamps, 405 oitavas from 318 tons = 1,293 oitavas per ton; vein stuff, 319 oitavas from 1 ton = 319,000 oitavas per ton; total, 724 oitavas from 314 tons. All the work has been kept in good repair.—For the First Division of December: Remittance: 1 sent, on the 1st inst., to Morro do St. Anna, for remittance to Messrs. John Moore and Co., Rio de Janeiro, per Don Pedro North del Rey Troop, leaving on the 12th current, a box containing 1216 oitavas of gold dust, thus:—Produce October, 178 oitavas; November, 724 oitavas; to 7th December, 314 oitavas: total, 1216 oitavas. The improvement in produce has been derived chiefly from small gold-bearing veins in the 25 ends, going west from Haymen's shaft, on No. 1 and 2 lodes; although there is nothing of a permanent character, yet it is encouraging. The progress during the last fortnight, on the whole, has been satisfactory, notwithstanding the late heavy rain, having operated against us to some extent in the exploratory works, particularly in the formation of the stamping mill, where the ground is of a soft nature. In the 25 fm. level, west of Haymen's shaft, on No. 1 lode, the line or branch of jacotinga is still holding on, embedded in clay and manganese, varying from 3 inches to 1 foot in width, yielding a little gold. No box work has been extracted during the past week.

ROSSA GRANDE.—Report for November: All the work has been carried on with all possible dispatch. All the machinery is working well.—First Division of December: Extract from letter, dated Dec. 16: The lode in the bottom of Batu sump-shaft is maintaining its size (3 ft. wide); 2 ft. below the foot-wall we have discovered an auriferous branch about 12 in. wide; this apparently was never wrought on by the former workers, but, judging from present auriferous quality, which is better than the main lode, I think it well worthy of notice. A level has been commenced eastward, called the 10 fm. level east.—Cachoeira: Good progress is being made in sinking Richards's shaft. The rise referred to in my last report is communicated to the shaft. The lode in the adit end is without alteration to notice.

BRAGANZA (Gold).—Dec. 15: Morro do Tabao: In the Cross-cut the lode is disarranged, and we are now driving west, in the hope that it will soon regain its former position. In B cross-cut, on Nos. 1 and 2 lodes, we have commenced to drive north and south on the rise 3 fms. 3 ft. above this level. The winze in B cross-cut, on No. 3 lode, has increased in size, and is now 3 feet big, and still maintaining the original appearance. The men driving south on No. 3 lode have been taken off, and put to rise in the back of this level; the lode here is 3 ft. big, composed chiefly of hard quartz. There are nine head of stamps at work.

SAO VICENTE.—Report for November: The deep adit has been extended 24 feet, making a total of 330 feet; the ground in the extreme end is slightly auriferous, but nothing to pay. The water here has gradually increased from the commencement up to the present time. No. 1 level has been driven during the month 14 ft., making a total of 302 ft. since we commenced. Viscount's shaft has been sunk 8 ft., making a total of 134 ft. I have also driven a small level under the place reported by the Brazilians to be so rich. The ground is slightly auriferous, but not a trace of anything payable; yet I think the appearance of the ground in the extreme bottom looks favourable; the sinking of this shaft will not be so rapid as formerly, as I shall be obliged to do so with Brazilians instead of Englishmen. I have commenced two other levels, which will be driven at right angles with the lines. I have also commenced clearing out an old adit, said to be bearing a very rich spot, when the owners were obliged to abandon it from an insufficient knowledge of mining. In addition, reports say, to a want of funds. My object is to arrive at as many points as I can with a little delay as possible. All the surface works are at the present time progressing very satisfactorily.—Sao Vicente: We have commenced working the winze at Morro das Almas. Everything in the shaft and at surface works first-class. The men are blasting down a part of the footwall and hanging wall, in order to bring the skip in proper line to the extreme bottom. The stud they are breaking is not rich, but is good stamp work. This is being piled on a floor recently made ready for the working of the stamps. I have tried hard to get the stamps to work by the end of this month, but the work has been a little delayed for want of masons and carpenters.

LUSTANIAN.—Jan. 9: Palhal: In Taylor's engine-shaft, below the 150, the lode is 2 to 4 ft. wide, and worth 1½ ton per fm. We are cutting flat at the 150, on the completion of which we shall fix a new drawing-bit at this level.—Levels on Basto's Lode: The 150, east of Taylor's shaft, is being extended on a lode 1 ft. wide, composed of quartz, with runners of country and stones of ore; and the 150 west on a lode yielding 2 tons of ore per fm. The lode in the 140 east is 4 ft. wide, unproductive; and in the same level west is worth 1 ton per fathom. The lode is 4 ft. wide in the 130 east, and composed of quartz. In the 120, east of River's shaft, the lode is 6 ft. wide, bearing stones of ore. In the 110 east the lode is 2½ ft. wide, composed of schisto and flookan, and is 1½ ft. wide, and of the same character in the 90 east, which end is letting out a stream of water, and has completely drained the 70. In the adit level, west of River's shaft, the lode is 6 in. wide, carrying a branch of ore, in places 1½ in. wide. Mill lode in the 35, east of Taylor's, is 1 ft. wide, made up of quartz and flookan

The branch in the 35, west of the slide, is split up into small strings, all of which are valueless. Slide lode in the 150, south-west and north-east of Taylor's shaft, is 1 ft. wide, composed of flookan. Basto's lode is 4 to 5 ft. wide, and is poor both in the winze below the 70, east of River's shaft, and in the rise above the 90 coming up to meet it, but in the winze below the 140, west of Taylor's shaft, it is producing nearly 2 tons of ore per fm., and in No. 91 winze under this level, east of the shaft, it is yielding 2 tons per fm.—Carvalho: The ground in the 60 cross-cut, north of incline shaft, continues to be a hard gneiss. Levels on Great Lode: In the 60, east of incline-shaft, the lode is 1 ft. wide, composed of quartz; in the 51 east, 1½ ft. wide, worth 7 cwt. of lead ore per fathom; in the 30 east, 4 ft. wide, spotted with lead; in the 20 east, 1 ft. wide, unproductive; and in the 40 west, 1½ ft. wide, composed of quartz, with stones of lead.—Caunter Lode: In the adit, west of incline shaft, the lode appears to be heaved by a course of schisto, mixed with flookan, 4 ft. wide. The lode is 4 ft. wide in the 20 west, but is not productive. In the 30 west the lode is 2 ft. wide, composed of quartz, spotted with lead. The rise above the 10 is going up on a lode 2½ ft. wide, containing mounds, with spots of lead.

[For remainder of Foreign Mines see to-day's Journal.]

SILVER STAR MINING COMPANY.

In forwarding to the shareholders the report of Prof. Clayton upon the Silver Star Mines, the directors draw attention to the fact that from the geological data therein given it is reasonable to infer the permanence of the lodes. The main facts to be gleaned from the professor's detailed description of the commercial value of the properties is that, while the narrow veins are chiefly of high grade ore, the lodes carrying low grade ore are of such width and extent that the supply may be considered as practically inexhaustible. The average of 860, as given by the professor, is a highly-paying value, and several of the most profitable mines of the day are returning enormous dividends from ore of that quality. Prof. Clayton was engaged to examine only the 21 mines bonded to the company, but in going over the properties he observed other adjacent mines of such a character and position that he considered it of the utmost importance to the interests of the Silver Star Company to obtain them. Mr. Clarke, the vendor, has met the directors on this point in the most honourable way, and has agreed to purchase at his own cost the additional mines recommended by Prof. Clayton, and to include them in the sale to the company. Mr. Clarke has also made over to the company certain valuable water rights, sufficient for a 25-stamp mill, and thus confers on the company the virtual control of the district. The Professor dwells on the necessity of adequate capital to develop the several properties, and gives a detailed estimate of the cost of establishing the works he considers necessary. The directors from the first were informed of the existence of a 10-stamp mill in good condition within a practicable distance of the mines, and situated at the head of the springs supplying the water rights now conceded to the company. Prof. Clayton examined this mill while in the neighbourhood, and states that it is in excellent condition, and advises its purchase with a view to re-erection nearer the mines. On this point, from all the evidence laid before them, the directors are of opinion that it is advisable at present to work the existing mill as it now stands. It is estimated that with this mill alone a profit of 20 per cent. can be realised. When the value of the mines is thus tested, the directors anticipate that the extra capital necessary to carry out Prof. Clayton's programme may be readily obtained, and that during the ensuing summer the development of the property will be sufficiently advanced to justify the commencement of the larger works. The supply of ore from the mines being so great, it is estimated that the additional 25-stamp mill is expected it will be kept continually running, and yield large returns to the shareholders.

Prof. Clayton's well-known caution and moderation justify the directors in believing that his report may be fully relied on. The company's solicitor, who accompanied the Professor in a minute examination of the various lodes, informs the directors that in his written report he has underrated the property, and based his estimates of values on the lowest calculations. Prof. Clayton, in conversation with the solicitor, admitted that the property had such a high prospective value, if properly worked and organised, that he would be content to undertake the management for the first four or five months, and then to continue a monthly general superintendence. It is not reasonable to expect that the reports of any two experts would coincide in every detail and estimate. Prof. Clayton does not corroborate all the opinions or statements of Messrs. Ellery and Nicholls, but the directors consider the additions made by Mr. Clarke to the original offer more than compensate for any mistakes or discrepancies in the statements of the vendor's mining engineers. The four additional mines are, in Prof. Clayton's opinion, of very great value, and he remarks that if this equipment be made the success of the company is "without the possibility of failure." The directors regard the examination of the property has taken so long a time; their apology is that they were desirous of obtaining the fullest and most reliable information about the mine before committing the shareholders to their purchase. Having now fully satisfied themselves that the prospects are most satisfactory, and the property of high value, they cordially recommend the completion of the provisional contract entered into with the vendor.

Prof. Clayton, after describing the district and each claim, adds that he has made no estimate of the amount of ore in sight, for the reason that the mines are unexplored, and that the amount of ore to be estimated, but the surface exposures, which he thinks, taken in the aggregate, gives a sufficient guarantee that enough good ore can be obtained to warrant the erection of a good 20-stamp mill. From all the sources of information at command, and a careful examination of the mines, he arrives at the general opinion that they can be made to produce from 30 to 40 tons of ore per day, that will yield in bullion \$60 per ton gross average. The range of workable ore would be from \$20 per ton up to \$600, or even more. He thinks the estimate of \$60 per ton yield in the mill is a fair and safe estimate. The average mining costs will, in all probability, reach the sum of \$12 per ton of assorted ore. In conducting mining operations so far from a base of supplies a good, safe margin of time should be allowed for hindrances and other contingencies, hence he only estimates 260 actual working days for the mill per year, giving the sum of \$234,000 net per annum. The professor estimates that it will cost \$193,000 to put the operations upon a good footing for business, and adds that this fund should not be less than the figures given, for it will require careful management and good executive ability to complete the works with the sums named.

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